

E S S A Y S  
ON THE  
HEPATITIS  
AND  
SPASMODIC AFFECTIONS  
IN INDIA;  
FOUNDED ON OBSERVATIONS  
MADE  
WHILST ON SERVICE WITH HIS MAJESTY'S TROOPS  
IN DIFFERENT PARTS OF THAT COUNTRY.

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By THOMAS GIRDLESTONE, M.D.  
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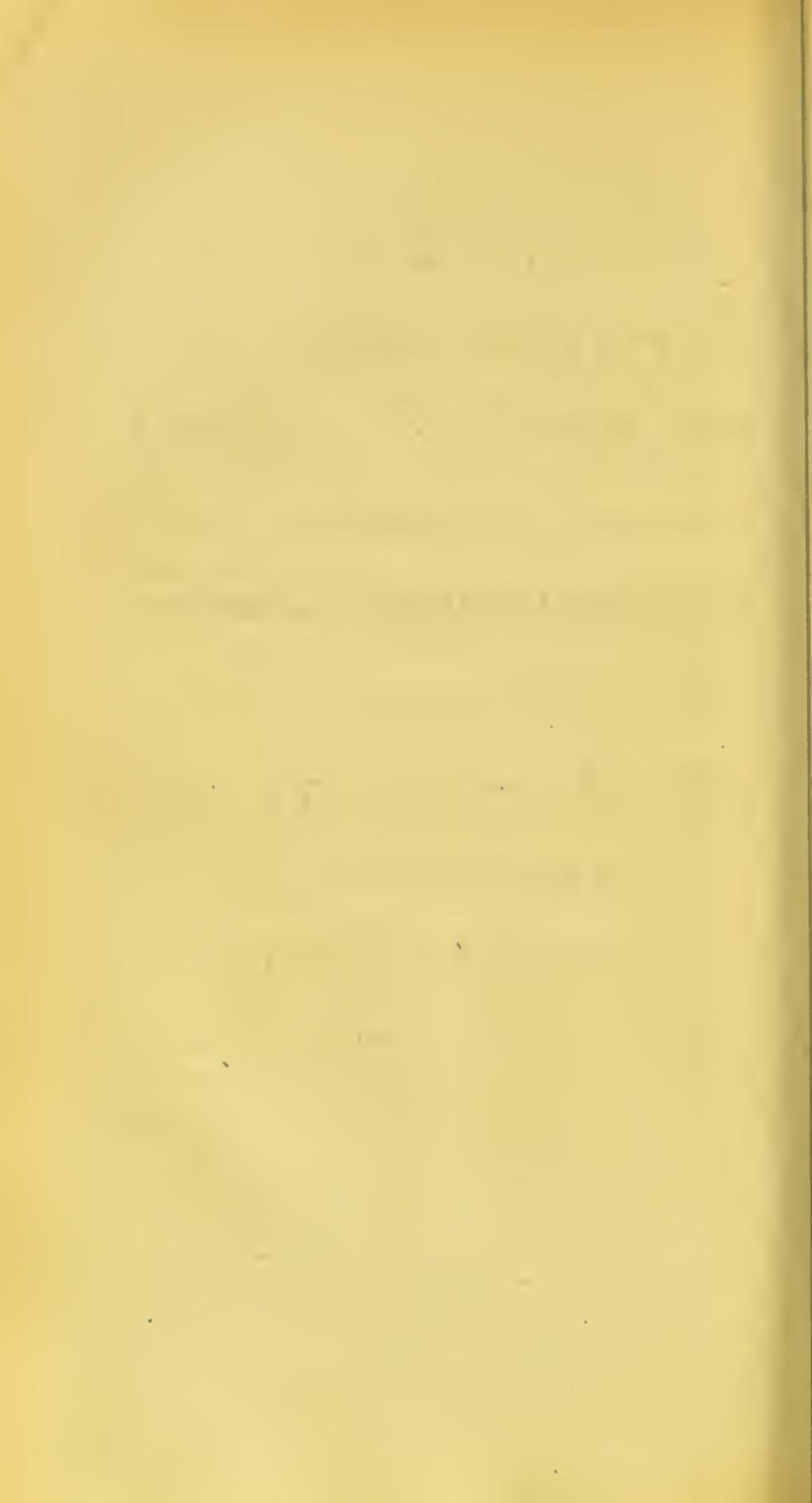
THE TWO FOLLOWING

E S S A Y S

ARE HUMBLY INSCRIBED,

BY THEIR OBEDIENT SERVANT,

THE AUTHOR.



## P R E F A C E.

THE British possessions in India are now become so extensive as to require for their defence a numerous body of our countrymen; many of whom, from the influence of a new and injurious climate, as well as other unfavourable changes, fall victims to the consequences of emigration. The prevention of this fatality may, in some cases, exceed the utmost efforts of medicine; but it is certain that in others, and those by far the greatest number, the operation of the causes above-mentioned prove chiefly deleterious from the imperfect knowledge hitherto attained of the nature of diseases in India. Among those to which Europeans are particularly exposed, the most common, and perhaps likewise the most fatal, is the Hepatitis, or Inflammation of the Liver; an accurate investigation of which must therefore

fore be an object of the first importance to every practitioner in that country.

There are as yet only three publications on this disease in England, and they are defective, as they were given by their authors, in consequence of some cases which they met with at sea ; inconsiderable either in number or variety when compared with those which happen in the field.

The Author of the present Treatise landed in India with the care of a thousand of his Majesty's troops, and other regiments fell to his charge. He thus had an opportunity of seeing the Hepatitis in all it's varieties of form, and of attending minutely to it's phænomena.

This led him to attempt an innovation in the practice, which he found successful for the last nine months of his continuance in that country.

Since

Since his Essay on the Hepatitis has been in the press, the report of four new-raised regiments being to be sent to India, has induced him to add an Essay on the Spasmodic Affections, which presented themselves immediately on the arrival of the troops with whom he landed in that country.

Spasms are very likely to be the first diseases of Europeans in India. And as the Author recollects no English Treatise on the Spasms in India drawn from personal observation, he has given the annexed concise account, rather than delay it's publication until he could find leisure to enlarge upon the subject.

He has however omitted nothing either in the Hepatitis or Spasms which he can think of that has any immediate reference to the practical parts of these subjects; though he is far from entertaining the idea that he has

has at length exhausted either of them by his own observations.

He trusts that the endeavour to furnish the officer and inexperienced practitioner to these climates with the means of preventing and of curing two of the most formidable diseases of the East, will amply apologize for the numerous defects which a critical reader may, no doubt, discern in the following pages.

## A N E S S A Y

ON THE

## HEPATITIS IN INDIA.

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THOSE who are conversant in medical writings, or have attended much to dissections in hospitals, know in how many patients the liver, which had never been suspected of any disease, has been found, after death, in a morbid state. It is a fact, that, in a great number of such cases, the affected part has gone through all the different stages of the latent disease,

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without ever exhibiting any of the symptoms by which we are taught, in the description of nosologists, to distinguish it.

Without paying any regard to definitions, I shall therefore proceed to a faithful relation of the Hepatitis, as it appeared in several hundreds of the men and officers, during and after a campaign of twenty-two months, in the Carnatic and Tanjore countries of India.

This disease is more common to the military than to any other set of people, and to those especially who serve on the Coromandel coast, as in this quarter the fatigues of the troops are the greatest. In Bengal, where all the expeditions are carried on only by water, in vessels covered from the rays of the sun, and where the provisions are better and more regularly supplied, diseased livers are much less frequent. From the history of this disease, it will appear not to be so acute as is generally imagined; but that it may, and very often

often does, continue in a chronic state, for weeks, months, sometimes years, and becomes suddenly acute by intemperance in drinking, or the improper use of mercury. The symptoms of vomiting, hiccup, or pain of the side or shoulder, too generally imagined to be necessary attendants of this disease, will not be found to have accompanied one half of the cases of diseased liver, which have gone through all their different stages.

Without taking any notice of the general pathology of the disease, I shall divide the phenomena into three stages, viz. the chronic, acute, and suppurative; and describe them in the order in which they appeared. To prove the acute stage not to be also a suppurative one, I have no facts. But as one of these stages always yields to a peculiar treatment, and the other seldom to any, the distinction may not be unnecessary.

## THE FIRST, OR CHRONIC STAGE.

FOR some time before the pain of the shoulder and side becomes violent, the animal spirits are much diminished: the stools begin to be very irregular, some days scarce any, at others very profuse and acrid: the countenance is tumid and bloated. Sometimes the tunica albuginea of the eyes is yellow, but more commonly of a dull white appearance. The skin, especially of the muscular parts of the body, is dry and squalid.

The urine is generally more or less high coloured, and small in quantity; the perspiration scanty and partial; the tongue dry with thirst. The stomach is extremely variable: frequently, before dinner, there is a momentary sickness, which is almost as instantly succeeded by a sensation of hunger. After eating, all these symptoms

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are alleviated for an hour or two, and then succeeded, either by heartburn or painful gripes; the pulse is small, hard, and quick, especially towards the evening; the gums contract a hardness; the shoulders appear daily more elevated. In many there is a dull pain in the lumbar region.

After these symptoms have continued for some time, an induration of a part of the liver may be sometimes felt, by laying the patient on his back, with the head low, and the knees a little elevated. The patient frequently continues in this state for a considerable time, until the dejection of spirits, which always more or less attends this disease, prompts him to the immoderate use of wine, which scarcely ever fails to accelerate the approach of the acute or inflammatory stage.

## THE SECOND, OR INFLAMMATORY STAGE.

THE countenance, which, from the beginning of the preceding stage, had contracted a morbid appearance, becomes now, at intervals, more florid than was common to the patient even in his best health. The stools are small, frequent, and resembling those in the dysentery. The pain of the shoulder and side, which before was obtuse and shifting, especially that of the former, becomes suddenly very acute. When this pain of the shoulder is felt, it always corresponds with that part of the liver which is most immediately diseased; being more or less anteriorly or posteriorly situated, according as the anterior or posterior parts of the liver are the seat of the complaint: and with the left lobe the left shoulder is frequently affected. In this stage the pain of the shoulder

shoulder is frequently increased on every motion of the diaphragm, attended with a troublesome short cough, and catching of the breath, in inspirations, as well as an increased pain on the region of the liver being touched. Sometimes the easiest position is on the diseased side, at other times on the opposite; but more commonly on the back, with the head rather low. The Hepatitis, in this stage, begins its attack as often with a flux and tenesmus as with a fixed pain of the shoulder; and in this case the person falls a sacrifice to a mistaken conception of the disease. Under this fallacious appearance the sick is commonly relieved by salts, or some gentle laxatives, until, the acute stage being palliated, the disease assumes the primitive chronic form; in which state he continues with irregular secretions, the urine high coloured, the countenance of a fallow complexion, and every day impressed with an air of additional melancholy. Many unfortunate persons, driven to despair, by the continuance of the complaint for one

or two years, have at length perished by violent means, which their ungovernable impatience had suggested. The period most usually fatal is the accession of the third stage, which is hastened by the use both of astringents and bitters.

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### THE THIRD, OR SUPPURATIVE STAGE.

IN a few days or weeks after the dysenteric symptoms have abated, the patient becomes so tired of the looseness which remains, that he is desirous of having it stopped. For this purpose, the common practice is to order astringents or bitters, which indeed soon check the looseness; but, in a short time after, he is attacked with a deep hollow-sounding cough, from that side of the lungs which corresponds to the lobe of the liver most diseased.

Whenever

Whenever the cough commences the greatest part of that side of the liver is generally occupied with an abscess, by which its substance is already consumed; though this purulent collection seldom gave any token of its existence, until it had opened to itself a passage through the dia-phragm and lungs, or into the cavity of the abdomen. In this emergency the patient is either suffocated by the sudden inundation of the lungs, or miserably expires by the more slow effects of incurable inanition, which is promoted by an unconcocted discharge of the aliments, accompanied with flatulence and gripes.

Where no astringents have been given, there are sometimes discovered more superficial suppurations, which are easily opened with the knife, and cured in a short time.

But those which succeed the sudden stoppage of the looseness, when this incident is attended with a deep hollow-sounding

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ing cough, prove equally mortal, whether they point outwardly or penetrate the cavities.

In these forms the Hepatitis most commonly made its appearance. But there is another shape, under which it remained for years, without running into the more acute stages, especially among the natives and those Europeans who had arrived in the country at a very early period. This form is that of an intermittent fever, irregular in its accessions, sometimes ushered in by a cold, though oftener only by a hot stage; but never without the pulse becoming smaller and quicker: the duration of the hot or sweating stage likewise bearing no proportion to the length or shortness of the cold one. It is called the Hill-fever, from its being endemic in the hilly parts of the Carnatic; and is often considered as incurable.

In all the cases I have seen of this kind the livers were diseased, especially the left lobes;

lobes; and the patients were restored to health only by treating their complaints as diseased livers.

Authors generally mention vomitings as concomitant symptoms when the concave parts, and hiccups, when the convex parts of the liver are diseased. But I have seen both parts imposthumated without either of these symptoms; and indeed have very seldom met with them in any hepatic complaints. A nausea and want of appetite are much more common in the latter stages of this disease.

The pain in this disease is usually ascribed to an adhesion of the convex part of the liver to the peritoneum; the consequence of which is, that the patients are induced to lie on the diseased side. But when the concave part is affected, to recline on the opposite side is an easier situation.

Mr. Matthews has remarked that only persons in whom the thorax is narrow have  
any

any pain in the epigastric, and those in whom it is broad, in the lumbar region

But, as far as I ever could observe, these pains alternated in each of the patients independently of any difference in the conformation of the chest.

Whether the pain of the shoulder arises from the adhesion to the diaphragm, as some have supposed, or from the junction of the phrenic nerve, with the third and fourth of the cervical, I cannot pretend to say; but that it does not depend always upon the enlargement of the liver, I can with great confidence affirm; having seen many amazingly enlarged, by abscesses formed in them, where this symptom had never been observed by the patients.

The free descent of the transverse septum, upon which respiration much depends, being impeded, a greater or less degree of dyspnœa must necessarily ensue.

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Though no persons, after the age of puberty, are exempted from this disease, when exposed to the operation of the exciting causes, I have observed that those of a sanguine temperament were more frequently afflicted than any other.

I never yet saw the disease in any who was not an adult. Out of twenty drummers of the 101st regiment, under the age of puberty, not one was seized with it, though they were constantly in the field, and performed their marches more regularly than any other part of the regiment.

The particular circumstances to which our army was exposed were the following, which I have therefore ventured to assign as the remote causes of the disease:

A hot climate,

Injuries of the cranium from the rays  
of the sun,

Abuse of spirits,

Passions of the mind,

Violent

Violent exercise,  
Bad water,  
Want of vegetables,  
Great repletion after long fasting,  
Abuse of Mercury.

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## H E A T.

HEAT being one of the most universal of all stimulants, has frequently produced the best effects, by increasing all the secretions: but though moderate heat, like moderate drinking, be frequently salutary, extreme heat, like abuses of dram-drinking, always leaves the system more languid, and consequently the secretions less copious. And, as the circulation through the liver is naturally languid, this organ is, of all the bowels, the first to feel these effects.

## RAYS OF THE SUN.

THE rays of the sun on the scull prove still a greater stimulus to the brain, so as frequently to produce instantaneous death. Whenever persons escaped with moderate *sun-strokes*, they often had at first increased secretions of bile, which were succeeded by a proportionable deficiency. The same effect happens frequently in fractured sculls. At first there is a profusion of bile, then very little; and sometimes it is followed by abscesses; of which there are instances given by Pegreas, Ballonius, Slegius, Pou-teau, Velschius, Paré, Greaume, Binof-quius, Marmannus, De Merchettes, Charrieré, Job. Mac Rereanus, Bianchi, and other authors.

## PASSIONS OF THE MIND.

THE melancholy which takes place in the Hepatitis, the diminution of bile in melancholy, the increased secretion of bile from anger, sun-strokes and injuries of the cranium, with their consequences, all serve to prove a remarkable sympathy between the liver and brain. I am therefore inclined to believe, that, next to the rays of the sun and excesses in spirituous liquors, all the depressing passions are to be considered as the most certain remote causes of this disease.\*

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\* The melancholy which often attends people in Britain, after very active lives in Asia, is generally attributed to moral causes. But perhaps the physical causes may have a far greater share in its production than has been commonly imagined. A certain gloom appears to be inseparable from a diseased liver. Few persons who have been long in that country, exposed to the rays of the sun

## B A D W A T E R .

CLEGHORN observes that, on the east side of Minorca, where the waters are bad, tumefied spleens and livers are common both to men and brutes.

The badness of the Carnatic waters may be sufficient argument for classing it as a cause, especially when we consider the great quantities of it which the men were obliged to drink from the extreme heat of the climate.

sun by long marches, whose livers are not in the first stage of this disease. But admitting this not to be the case, it has, in the former part of this treatise, been observed that the dark haired and melancholic habits resist the fatigues best ; of course they are the most likely to revisit their native country ; and they seldom return to Europe until they are able to live luxuriously ; where, from being accustomed to all the violent stimuli in nature, they come to sink into a state of ease and luxury in a country where double their former exercise had need to be exerted to prevent the powers of the climate, which are now to them become depressing.

## CHANGE OF DIET.

EVERY change of diet, from a long continued one, seems to act as a stimulus on the biliary ducts.

The officers and men who were prisoners in chains with Tippo-Saib, in the East Indies, were allowed only rice, water, and capsicum, for the many months they were with him.

When they were released, the animal food of every kind which they attempted to eat, purged them so violently that they could take it only in the smallest quantities for a considerable time.

The British fleet not appearing with the store-ships, the army was reduced to the necessity of living almost entirely on animal food. The natives of the army, whose customary diet is chiefly rice, were all purged by this change.

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The like happens both to men and officers, after living some months at sea on the same diet; on making a port, the vegetables always produce such copious secretions of bile as oblige them to be moderate in their use.

The patent dried cabbage was laid in for the use of the 101st regiment. They had none of it for the first month of the voyage; but as soon as they began to eat it they were all purged.

From fish also the same effects have been seen.

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#### GREAT REPLETION AFTER LONG FASTING.

AS the troops were frequently exposed to long fasting, they were very apt to overcharge their stomachs. To prove this to

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be a highly debilitating cause, the following recent and well-known fact may be mentioned. At the famine at Madras, in October 1782, several native children were taken by the English to their tables; by their extreme voracity, their viscera soon became diseased, their bellies tumefied, and schirrous indurations were to be felt in all those who had not their diet limited for a considerable time.

I shall afterwards have occasion to mention the effects of mercury, in treating of the cure of this disease.

I shall now hazard a few conjectures relative to the proximate cause of this disease; though I would not be understood as being dogmatical on a point of so much uncertainty.

In consequence of a relaxation of the system, especially of the ultimate branches of the vena portarum, the secretion of bile is not only diminished, but that which is secreted

secreted is more watery than usual, and less endowed with the natural qualities of the bile. On this account chylification becomes imperfect, and all the different intestinal phænomena are produced. Authors have related the dissection of patients affected with dysenteries, whose livers were found diseased; and these appearances are conformable to the doctrine now mentioned. In many cases of chronic dysenteries I found the livers in one of the stages above described. The spasm of the colon, in those complaints, therefore, can only be considered as the effects of the state of the bile, and not the proximate cause of this disease. Though salts frequently relieve the torments and spasms, they never are sufficient to remove the disease, except where they induce a new and continued energy in the biliary ducts, so that stools copiously and regularly charged with a deep yellow bile are produced. As a further confirmation of this opinion, I may add, that the most obstinate of these dysenteries readily yielded to the same treatment

as the Hepatitis after every other method had failed.

From the gradual diminution of bile in the Hepatitis, as well as the gradual diminutions of energy in the system, there is every reason to suspect the extremities of the vena portarum to be the seat of this disease.

From the few nerves sent to the liver, there is but little reason to expect much energy through the medium of those organs; and on account of the distance of the vena portarum from the heart, there is still less reason to expect much influence from a *vis a tergo*. Why, then, along continued weakness of the system should always produce diseased livers in India, appears to me not to be so difficult a question, as why the same cause should not render this a more frequent disease in other climates.

With respect to the diagnostic symptoms,  
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the pain of the shoulder and side, when it exists, is a very certain characteristic of the disease; but it cannot be considered as a pathognomonic symptom, as it is by no means constant.

The elevation of the shoulders, as the disease advanced, was evident; but this possibly may take place in other morbid affections.

The hardness of the gums was a very constant attendant; but this, likewise, is common to many persons, both in a state of health and disease; and therefore, of itself, can form no certain diagnostic.

The pushing the fingers against the hypochondres would sometimes give a sense of pain or itching to one of the shoulders. But, upon the whole, I am of opinion that the presence of this disease can only be ascertained by attending to the whole succession of phænomena; as it so often exists without the pain of the side and shoulder,

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and as the hardness of the gums and elevation of the shoulders, appear not of themselves to be evident and sufficient diagnostics.

In the first stage, if the cure be properly attended to; we may with certainty pronounce a favourable termination of the disease. We may be equally confident in the prognosis of the second stage, when the tongue becomes furred, and the gums less hard from the treatment about to be recommended. In the third stage, the tongue frequently remains clean, and the gums cannot be affected. The prognosis in the last stage can never be favourable, unless we can be sure that the suppuration is small and superficial.

The indication of cure in this disease is to restore the energy of the system, and of the vena portarum. This may be done frequently in the first, and sometimes second stages of the disease, by change of climate, and avoiding the other remote causes. But all

all the common methods used in northern climates proved in these cases ineffectual. From small doses of neutral salts, such as the sal glauberi given at intervals, so as to keep up a constant action, the disease was sometimes brought back from the second stage to the first.

The vitriolic acid was tried frequently without any kind of advantage: it occasioned an unnatural appetite, and commonly hastened the progress of the disease.

The bark, and bitters of every kind, were attended with similar effects.

As these remedies have been long found to be ineffectual, practitioners of late years have had recourse to mercury, introducing it to the system both by the mouth and skin; and by this treatment they have become much more successful.

Soon after my arrival in India, I saw several cases treated in this manner with evident

evident advantage. A hard gum had always been observed to be a constant attendant on this disease. I had not seen many cases before I began to observe that the patient seldom or never was relieved until the gums were made sore or spungy ; and when they could not be thus affected, a suppuration almost always took place. I entertained hope that this state of the gums would furnish me with a certain criterion, to judge when a sufficient quantity of mercury was thrown into the system.

In this state of uncertainty, I was surprised to observe that a small quantity of mercury, taken by the mouth, affected the gums very much, and often without producing any other sensible alteration. On the contrary, when a large quantity was applied to the skin, the time required to affect the gums was much longer, and the alterations on the system were much greater.

This observation first suggested to me the supposition, that, when the mercury was introduced

introduced by the stomach, it might have a tendency to pass off by the mouth before the system was much affected; whereas, when it was introduced by the skin, a large quantity could be retained in the system before the gums became affected: and therefore, if any advantage was to be expected from mercury in this disease, this latter method, in which larger quantities could be introduced into the system, ought naturally to be preferred.

The two following cases, related to me by the gentlemen themselves, first led me to believe the necessity of much mercury in the cure of this disease.

CASE of Major D. C. taken in  
September 1783.

MAJOR D. C. of the Company's service, a stout, strong-made Highlander, of about sixty years of age, after being two years in India, began to labour under a liver-

liver-complaint, which was relieved by mercury. As the mercury was only given him by the mouth, the gums were frequently affected. The relief he always experienced from its use, made him continue it as freely as possible for near twelve months, when the pain of the side and shoulder ceased. Eighteen years had elapsed from this time without his ever suffering a day's sickness. His gums ever since continuing oozy, and his saliva prematurely flowing, are the only inconveniences he is sensible of from this long course.

## C A S E II.

*Taken in Sept. 1783, from Capt. L. of  
the Company's Service.*

CAPTAIN L. a slender young man, of about twenty-eight years of age, told me that, for the two first years after his arrival in India, he laboured under a dysentery, which made his life be despaired of, until he fell under the care of a surgeon who gave him mercury. This medicine

dicine relieved him so much that he continued to take it in considerable quantities, but all by the mouth, and persisted in its use as freely as the gums would permit, until the disease was removed. During ten years, which was the whole time intervening from this course, he had enjoyed good health; but his teeth and gums never after recovered their natural appearance; and his saliva still continued to be too profuse.

Besides pointing out the necessity of much mercury, the last case had determined me to examine the livers of all dysenteric patients in future. An opportunity of confirming the good effects of such an examination soon after presented itself in the following case:

### C A S E III.

An officer in his majesty's service, after a campaign of sixteen months, during which he had suffered repeated sickness, was

was attacked with dysenteric symptoms. Having used salts, fomentations, glysters, opium, &c. for eight days, without any effect, his case was thought to be mortal.

I then saw him; and, on examination, found the right lobe of his liver evidently diseased. He was immediately put upon a course of mercurial frictions, which, in an hour's time, afforded him more relief than he had experienced from the first attack. The frictions were successfully continued; but the exhibition of a few grains of calomel, after the ninth friction, affected the mouth so suddenly, and so violently, as to render the continuance of them impracticable. The dysenteric symptoms disappeared, but his mouth remained for several days very troublesome. He was sent to the Danish settlement on the coast for the reestablishment of his health. His mouth was scarce well, when he was as severely attacked with the flux, and a pain of the left lobe of the liver.

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On the idea that this pain was a spasm of the colon, fomentations, glysters, opium, and evacuations, were again put in practice. But the patient, finding all to no purpose, determined on having recourse to friction, though contrary to the advice of all his medical attendants.

This expedient again afforded him speedy relief; and he was restored to health by using it as freely as his mouth would permit. He ever after enjoyed good health in India, and is now in Ireland, a living witness to his case.

The necessity which the patient found of having recourse to these frictions, with the great benefit he experienced from them, and the sudden soreness of the gums induced by the calomel; all these circumstances furnished me with the first suspicion of the bad consequences of giving the mercury by the mouth.

The success of this gentleman's second recourse to the frictions came to

my knowledge just time enough to encourage me to return and adhere to them in the following case:

#### C A S E     IV.

An officer in his majesty's service, after the siege of Cuddalore, laboured under a chronic complaint of the liver, and continued in the field until he was attacked with dysentery. Fourteen drachms of mercurial ointment, applied in the quantity of two drachms a day, removed the dysentery, without affecting the gums. In about two months the dysentery recurred, and was again relieved by frictions, continued during another week. At the distance of six or eight days from this period he was suddenly attacked with what he thought to be only a painful crick of the left side of the neck. For this complaint recourse was had to topical applications of opium and volatile liniment, hot flannels, and frotuses, but without any effect; and, about two hours after, a pain, not less violent,

violent, was felt about the left hypochondre, and extended over the stomach. As the patient had used such a quantity of mercury, recourse was had to venesection; which rendered the pulse more frequent, and the pain more insupportable. The dysenteric symptoms having recurred, a small dose of salts was now tried, without any benefit. Mercury was again resolved on, and rubbed in, as before, for nine days; but neither afforded any relief, nor so much as affected the gums. In compliance with the patient's anxiety, mercury was exhibited by the mouth. A few doses of calomel produced ulcerations of the gums, but no sponginess, or remission of symptoms. The mercury was discontinued on account of these ulcerations about the gums. The pain becoming more violent, and the quantity of mercury already used being very great, the patient began to lose all faith in that medicine. Mustard-plasters to the pained part were then tried; but the irritation which they excited could not be long

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endured, and they afforded no relief. Frictions with hot camphorated oil were also tried to no purpose.

Being now informed of the success attending the third case, I determined, notwithstanding the exhausted state of the patient, to push the mercury by the skin only, until the gums should become affected. Half an ounce of the strongest mercurial ointment was rubbed in about the back, abdomen, and thighs. Before this friction was completely finished, the patient became so much relieved, as to be able to lie at his full length, in any situation but on the diseased side. A drachm of the ointment was continued to be rubbed in, night and morning, with evident good effect; and, after the friction had been repeated twelve times, the gums became uniformly spongy. From that time the pain ceased, the pulse became softer and slower, and the patient speedily returned to a better state of health than he had ever before enjoyed in India. He remained

remained more than a year after in the different parts of that country, without suffering any kind of relapse. His gums remained not very long spongy, nor did his saliva continue to flow so profusely as in those cases where the mercury had been taken by the mouth. He is now in Europe, and suffers no inconvenience from change of climate.

This, and the preceding case, impressed me with an opinion that there was an absolute necessity to avoid exhibiting mercury by the mouth when the patient was put under a course of frictions.

In order to try whether this opinion was well-founded, I procured a large quantity of good mercurial ointment, and proceeded to the cure of a variety of cases with the frictions, unassisted by any other remedy. I now observed, that, by this method, the gums were much slower in being affected; but, when they were af-

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fected, the disease appeared to be entirely removed.

Sometimes the patient was relieved two or three days before the gums were affected. But, more frequently, relief was not to be expected till a few hours before the gums became spongy; from which time the secretions, the appetite, the pulse, the spirits, and the complexion, very speedily became natural: I also observed, that, where the mercury was given by the stomach, the gums, after becoming sore, remained hard and of a natural colour in many places. In other parts there were troublesome ulcerations, attended with a copious spitting. Whereas, from mercurial frictions alone, ulcerations never came on suddenly, but were always preceded by such a regular swelling and change of colour in the gums, as to render their prevention extremely easy. I continued in India nine months after I had adopted this practice. All the confirmed liver cases (amounting to an immense number) which

which from that time came under my care, were, by this method, cured without suppurations; nor was there any relapse, so far as I could learn, during my subsequent residence in the country.

I shall add the following case to those I have already given.

#### C A S E V.

Lieutenant C. of the Company's service, about twenty-five years of age, had frequently, after his arrival, which was five years before, in India, laboured under repeated attacks of the Hepatitis. Mercurial frictions and pills had constantly relieved him, until a few weeks before I saw him: he had then gone through his usual course with but little relief, and his mouth had become too sore to persist in any farther trial of it. As no medical person was near him, he had recourse to repeated doses of salts. His mouth was relieved  
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by the salts, but his disease continued. He came under my care about a week after, and was immediately put upon the frictions, with one drachm of mercurial ointment night and morning. Near three ounces of ointment were used in this manner before the gums were affected ; they then began to swell and assume a deep red colour. From this time he enjoyed a total cessation of pain, and recovered a better state of health than he had ever before experienced in that country.

After these cases had happened our regiment was carried round to Bengal in the Vansittart English Indiaman. This ship had just returned from Batavia ; and many of her crew were then labouring under chronic dysenteries contracted in that settlement. I was asked, by the surgeon of the ship, to see one of the worst cases.

From what I had then learned of the diseases of the country, I pronounced the case

case to be a Hepatitis. The surgeon could hardly be persuaded of this, as the man had never complained of pain of the shoulder or side, nor been seized either with vomitings or hiccups. But in two days a large tumor in the region of the right lobe of the liver confirmed my assertion.

The tumor was opened, and about three English pints of matter instantly discharged from the liver. The man died a few days after the operation. The rest of the sick crew were recovered by treating their cases as diseased livers.

After relating so many instances of the good effects of mercury, it may be expected that I should offer some opinion with respect to its mode of operation. On this subject I shall be extremely brief.

As there are no stimuli, that I know of, which can support, for so great a length of time, an increased action of the

vascular system, I presume this must be the reason why mercury has the advantage over all other medicines of that class, and may truly be said to possess very peculiar powers.

But mercury, given by the stomach, never can be made to keep up that continued action, so necessary for the cure of this, and perhaps of every other disease, which has been slow in its progress.

Notwithstanding all I have said of this most excellent, though in the end debilitating medicine, I am of opinion that it should never be used too soon; and that, when adopted, it ought to be persisted in regularly. The use of small doses of calomel, as a prophylactic, I am convinced has often been the means of producing this disease. I would, therefore, advise no person to have recourse to mercury as a preventive, nor ever to begin with it in the first stage of the disease; as, during that period, a change of situation and diet may

may prove sufficient to effect the cure. But, in the second stage, the frictions appear to be not only the most expeditious, as well as the most successful, method of treatment.

It may be proper to observe that, during the mercurial course, acids should be avoided; and animal food generally proves the best kind of diet. Not less than a drachm of the strongest ointment should be thoroughly rubbed in, either upon the side, or some other extensive surface, every night and morning.

The mercurial frictions, having relieved or entirely removed the pain, ought not to be discontinued until the gums become affected; otherwise the patient is exposed to a relapse, with a greater tendency to suppuration.

Sometimes, towards the conclusion of the mercurial course, viz. about the time the gums become affected, a kind of erisipilatous eruption breaks out all over the body:

body: but, by a discontinuance of the mercury, this may be soon removed. In other cases it was observed that the stools first becoming copious after the course, were sometimes mixed with a great quantity of gelatinous matter, which had something the appearance of hydatids. As this symptom seldom appeared till health was returning, no variation of treatment became necessary.

Slight pains of the muscles of the arms, thighs, shoulders, and side, remain for some time after the use of mercury; but none of them are attended with any catching in respiration, as in the Hepatitis, and deserve no particular attention. For some time after the mercurial course, however, the great increase of perspiration, especially about the abdomen, renders it absolutely necessary to keep that part well covered; otherwise the hot winds, which blow with so much force in that country, are apt to produce violent spasmodic pains of the bowels.

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The appetite becomes exceedingly keen after the mercurial course, and renders the greatest precautions necessary that the stomach be not overcharged. The dinner should be made of one good dish of roast meat, or cury, without grease, with but a very moderate use of vegetables or fruit. Two or three glasses of wine after dinner are as much as ought to be indulged in for some time. Drinking of grog, or any spirituous liquors, should not be used; and all warm weak drinks ought likewise to be avoided. As the few glasses of wine after dinner are prescribed with the view of promoting digestion, no other liquid ought to be taken for at least an hour after, that the power of the wine may not be weakened.

The mercurial course, not unfrequently, produces so great a secretion of bile as to render the use of vegetables and acids almost, if not totally, impracticable. This effect sometimes arises to what is called in India a mercurial flux; and may be then removed,

removed, by abstaining from all acids and vegetables and adhering a few days entirely to a diet of animal food, with the use of spirits and water, or Madeira wine. A similar flux happens on first arriving in warm climates, which yields to the same method of cure, being only a preternatural increased secretion of bile, occasioned by the abuse of acids, fruits, or vegetables. After the Hepatitis is removed, the constant, but cautious, use of acids, in hot climates, proves the best means of preventing a relapse.

O N

SPASMODIC AFFECTIONS

I N

I N D I A.

1. *On the Nature of the Human Species* (1859)

2. *On the Descent of Man, and Selection in Relation to Sex* (1871)

3. *The Expression of the Emotions in Man and Animals* (1872)

4. *Principles of Geology* (1830-33) (with Charles Lyell)

5. *On the Origin of Species by Means of Natural Selection* (1859)

6. *Notes on the Ants of the British Islands* (1862)

7. *Notes on the Homology of Vertebrates* (1868)

8. *On the Structure and Distribution of Organisms* (1859)

9. *On the Law of Homologous Variation* (1863)

10. *On the History of Fossils* (1830-33)

11. *On the Structure and Distribution of Organisms* (1859)

12. *On the Structure and Distribution of Organisms* (1859)

13. *On the Structure and Distribution of Organisms* (1859)

14. *On the Structure and Distribution of Organisms* (1859)

15. *On the Structure and Distribution of Organisms* (1859)

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24. *On the Structure and Distribution of Organisms* (1859)

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## SPASMODIC AFFECTIONS

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I N D I A.

SPASMS were the first diseases which appeared amongst the troops who arrived at Madras in October 1782, under the command of Major General Sir John Burgoine. More than fifty of these fresh men were killed by them within the first three days after they were landed in that country, and in less than a month from that time, upwards of a thousand had suffered from attacks of these complaints.

The testanus or spasm is distinguished by medical writers into various species, according

according either to the particular parts affected with contraction, or the duration of the disease. But as all these different appearances (at least when not arising from wounds) seem to proceed from the same causes, to yield to the same method of cure, and to afford nothing particular with respect to the prognosis of the disease, I shall, without specifying their distinctions, describe the various phenomena, as generally observed in India.

I must, however, previously acknowledge, that though I have seen many wounds in India, I never saw a wounded person affected with spasms, except in the agonies of death; and therefore I can by no means affirm that the following observations are equally applicable to those tetanic affections, which are described by authors as arising from wounds; because such cases, from their peculiar exciting causes, must be still more untractable and hazardous.

The symptoms which commonly first presented themselves were coldness of the surface of the body, especially of the hands; feebleness of the pulse, and spasmodic contractions of the lower extremities, soon extending to the muscles of the abdomen, diaphragm, and ribs. As the spasms advanced, the muscles might be seen to assume the rigidity of cartilages; sometimes causing the body to remain immoveably extended; sometimes bending the trunk through its whole length, anteriorly; and sometimes, though seldom, backwards. The parts in which the spasms began generally remained rigid; but those which were subsequently seized with them, had momentary intermissions of the contractions; the only intervals of relief experienced by the patient from the most tormenting pains. The hands and feet then generally became sodden, with cold sweats; the nails livid, the pulse more feeble and frequent, and the breath

so condensed as to be both seen and felt, issuing in a cold stream at a considerable distance. The thirst was insatiable; the tongue whitish, but never dry; vomitings became almost incessant; the spasms, cold sweats, and thirst, increased with the vomitings; which last, if not checked, soon terminated the existence of the patient.

In this manner, most commonly, was the succession of phænomena; but often they were so rapid in their attack, that they seemed to seize the patient all in conjunction instantaneously.

In some few, the extremities remained warm; in others also the spasms were only clonic or convulsive. Some died in the first hour of the attack; others lived a day or two with remissions; when they died either of universal spasms, or an apoplexy. On the dissection of the bodies after death, it appeared that no injury had

had been sustained by the brain, liver, gall, bladder, stomach, or heart.

All who recovered of this disease were observed to have very languid secretions for a considerable time after, and frequently carbuncles, which would sometimes yield neither to bark, opium, nor wine.

At a general meeting of the faculty at Madras, this disease was unanimously judged to proceed from the four following causes, viz.

Damps from the earth,  
The not using of capsicum,  
Bad arrack,  
A coffee made of stramonium.

The facts adduced in support of the first of these were, that fowls put into coops at night, in that season of the year, and on the same soil that the men slept, were always found dead the next morning, if the coop was not placed at a certain

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height above the surface of the earth. And as a sufficient number of cotts had not been previously procured for all the troops, many of them were obliged to sleep on the ground.

### CAPSICUM.

As the men had not then learned to eat capsicum with their meat, according to the general practice of Asia, this circumstance was considered as a predisponent cause of the disease.

A bad kind of arrack, made from some of the most intoxicating vegetables, is often privately sold amongst the soldiery, and was therefore considered as one probable cause of the disease.

In respect of the coffee made of stramonium, which the natives both sell and drink themselves, as the cheapest of all modes of intoxication, it must be observed that

that there were no proofs of any of the men having drank of this coffee.

Towards ascertaining the most general exciting cause of this disease, I shall mention the following facts.

Drunkenness was very severely punished in all the newly arrived regiments; and to prevent detection the men, after the rolls were called in the evening, used to drink seven or eight large drams, and go to bed; immediately on awakening, their thirst was usually so great, that they drank three or four pints of cold water, which seldom failed to produce the disease. The first circumstance which led me to suspect this, and which was afterwards confirmed by the confessions of several of the men who recovered, was my observing that all the patients in the worst cases were brought into the hospital about four o'clock in the morning. They were attacked with the vomitings, and other symptoms,

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almost immediately after they had drank the cold water.

A mussulman, in the southern parts of the Tanjore country, having used the cold bath immediately after coition, was siezed with an universal spasm, and died in less than half an hour.

An officer, after being twelve months in India, became my patient, for a large venereal ulcer, which laid bare a considerable portion of the urethra. After the ulcer was perfectly healed, and his mercurial course finished, he exposed himself in his sleep to a stream of air. On waking the next morning he found his jaw stiff, but as the day became hot the stiffness went off. On mentioning it to me, he was desired to sleep warmer for the future, on the presumption that it was occasioned by an increase of perspiration, and irritability from the use of mercury. He felt no returns of his complaint until near a fortnight

fortnight after, when he was induced by the closeness and heat, during the first part of the night, again to set open the doors and windows. The winds blowing very strong towards the morning awaked him, when he found himself affected with the most dreadful spasms in every part of his body, attended with cold sweats, blindness, and stiffness of his extremities; all which symptoms could not be removed for the space of sixteen hours.

This, and the case of an officer of the Company's service, who, immediately after the fatigue of a very hot day's march, plunged himself into a tank of cold water, are the only two cases of spasms I ever saw amongst officers \*; though above three

\* By officers, however, this disease is often confounded with the *coup de folie!*, or sun stroke, because each, if not attended to, very speedily puts a period to life. In the first or mildest attacks of the sun stroke, it exhibits the phænomena of a synocha; in the second, those of phrenitis; and in the last stage, somnolence, cold sweats, and death sometimes, preceded by a few convulsive motions.

hundred of the 101st private soldiers were attacked with them on the first month of their arrival at Madras \*.

From all these circumstances I am induced to agree with those authors who have considered cold † as the most general exciting cause of this disease.

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\* Officers, however, as well as private men, have been suddenly killed in that country by spasms, occasioned by exposing themselves to the winds, with nothing on but their shirts, when wet with perspiration. This will be very easily conceived by those who are acquainted with the common method of cooling liquor in India, by keeping the sides of the bottles moist with wet cloths, and exposed to the evaporating influence of the winds.

† By this expression I mean relative, not absolute cold. I should not have thought this explanation necessary, as positive cold is now scarcely by any admitted in this country, had I not been informed that an ingenious gentleman recommends an ice-house for the cure of this disease, because it is an endemic of the torrid climates. A gentleman who arrived in India with a similar speculative opinion, enjoined the use of the cold bath in a number of tetanic cases; and had

The prognosis of this disease is formed with greater certainty from the warmth or coldness of the extremities, than from either the universality of the spasms, or the frequency or steadiness of the pulse. Thus if the spasms were ever so general, with warmth of the extremities, there was no immediate danger: on the contrary, if the spasm was ever so trifling, with coldness, there was every danger to be feared.

The warm bath, and wrapping up in blankets, with the use of opium, were what I at first chiefly depended upon in the cure of this disease. But what the faculty

had the mortification to find that, in all, he accelerated the death of the patients so quickly, that scarce any of them could survive two minutes after coming out of the bath. The irritability of the body is very sensibly increased on the first exposure to the influence of a hot climate. Until that increased irritability be considerably diminished, a person is unseasoned, and remains too weak to bear with safety the meridian heat, or evening dew; neither can he safely take medicines in equal doses with those who are seasoned to a hot climate.

there relied on most, was the liberal use of hot Madeira wine.

If one bottle should be thrown up, as fast as it was drank, they recommended a second and third bottle. But this practice is not very successful: for, in the worst cases, the reachings are the most distressing symptoms; as the cold sweats and spasms are constantly observed to increase with them. And though the thirst be always insatiable, yet to allow no more than half an ounce of some warm liquid at a time, and that of the most cordial kind, with thirty or forty drops of laudanum, proved a more successful plan than indulging the patient in a full draught. This cordial and laudanum I used to repeat as fast as it was thrown up. But when the patient retained a dose, I repeated the cordial, without the opium, but in the same small quantities, and at intervals. For a draught of any liquid was sure to make the vomitings recur, and with them the cold sweats, thirst, and spasms.

Afterwards,

Afterwards, being in a situation where the warm bath could not be had recourse to, and being then satisfied by my own observations, by the testimony of many of the faculty at Madras, and by the constant practice of the natives, that warmth was the most successful method of combating this disease, I relied upon repeated injections of warm broth, with about thirty drops of laudanum, at the same time advising the use of general frictions, with hot dry flannels, and the warm cordial draughts, with laudanum repeatedly, until the reachings had ceased: and by these means I thought I succeeded better than ever I had done with the warm bath.

For those cases which were relieved by the warm bath oftener relapsed, than those relieved by the injections.

The practice of the natives in this disease is to use frictions, and hot dry sand,

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or heat of any sort ; giving likewise drams, or hot pepper water, to those whose casts will not admit of the drinking of spirits.

A Dutch physician in that country is said to have been always very successful in this disease, by treating it in the following manner : to strip the patient, lay him on a cane couch, under which were placed stoves of fire ; to cover the trunk and limbs from the air with a blanket, so disposed that the heat from the stoves should be confined about the body ; to have frictions at the same time used under the blankets, with warm flannel\*, and to exhibit a dose of opium in solution after every vomiting.

As I never had any cases of spasms after learning this method, I never had an opportunity of giving it a trial.

\* As to giving opium in a solid form, either in this disease or cholera morbus, any one must see the impropriety of it, who considers how unfit the stomach in such cases is to perform any part of its natural functions.

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With regard to the accounts related by some authors of the successful use of mercurial frictions, rubifacients, or of blisters, in the cure of this disease, I have only to observe, that however universal the spasms were in all the cases I have seen, I never saw that case prove mortal where there was sufficient warmth upon the surface for the skin to absorb mercury, or to be made red by blisters or other stimulating applications.

T H E     E N D.

